

AMENDMENTS IN THE CLAIMS

1. (Previously Presented) A system for controlling execution timing of jobs, comprising:
job execution means for executing a plurality of jobs, wherein said plurality of jobs includes a first job executed at irregular time intervals and a second job executed at regular time intervals;
probability distribution forming means for determining a probability distribution in accordance with times at which execution of said first job occurs; and
execution timing means for scheduling execution of said second job in accordance with said probability distribution.
2. (Original) The system according to Claim 1, wherein the starting point of the probability distribution is set at the time at which said first job has completed execution.
3. (Original) The system according to Claim 1, wherein said probability distribution forming means includes means for determining the probability distribution with respect to time zones, week-day zones and/or seasonal zones, and
wherein said execution timing means schedules execution of said second job on the basis of the probability distribution according to the current time, the current day in a week and/or the current season.
4. (Previously Presented) The system according to Claim 1, wherein said probability distribution forming means includes means for determining the probability distribution in accordance with a predetermined number of latest data items in a predetermined last period in the data at approximately the times at which execution of said first job has occurred.
5. (Original) The system according to Claim 2, wherein said probability distribution forming means includes:
time lapse measuring means for measuring a lapse of time from the time at which the first job execution is finished;
array means having array elements corresponding to a plurality of intervals defined by dividing the lapse of time from the time at which said first job execution is finished;

updating means for:

monitoring occurrences of execution of the first job; and

updating the value of the array element related to the interval corresponding to the lapse of time after an occurrence of execution of said first job; and

probability distribution computation means for computing the probability of occurrence of execution of said first job in each interval on the basis of the value of the corresponding array element.

6. (Original) The system according to Claim 5, wherein the length of each of the intervals is set longer than the time period required for processing said second job.

7. (Previously Presented) The system according to Claim 1, further comprising:

comparison means for comparing a reference duration value, T_{max} , with a non-occurrence duration, t , defined as a time period between execution of said first job; and

execution inhibition means for inhibiting said job execution means from executing the second job until a condition: $t > T_{max}$ is satisfied once after execution of said second job.

8. (Previously Presented) The system according to Claim 7, further comprising:

interval division means for dividing the lapse of time from the time at which said first job is finished into a plurality of intervals, wherein the time at which said first job is finished is set as the time start point of said probability distribution;

expectation computation means, responsive to no execution of said first job from said time start point to the end of a first interval among said plurality of intervals, for utilizing said probability distribution to compute an expectation T_1 as a predicted time period prior to a time at which said second job can be executed after completed execution of said first job from the end point of one of said plurality of intervals;

minimum probability interval detection means for detecting one of said plurality of intervals that corresponds to the minimum probability among said plurality of intervals between said time start point and T_m , wherein T_m is the end point of one of the intervals in which T_1 at the end point of each interval satisfies a condition: $T_1 < T_{max}$ with respect to the predetermined reference value T_{max} , and which is the furthest from the time start point; and

execution timing means for scheduling the execution of second job in the interval detected by said minimum probability interval detection means.

9. (Original) The system according to Claim 8, further comprising reference value setting means for controllably setting Tmax.

a pair of complementary data inputs;

a pair of data path pass-transistor logic (PTL) transistors configured as pass-gates with respect to each of said pair of complementary data inputs and having the PTL transistor gate terminals connected to a control node, wherein said pair of data path PTL transistors pass data from said pair of complementary data inputs into a pair of complementary storage nodes in response to a latch trigger pulse applied to said control node; and

a pulse generator that passes said latch trigger pulse to said control node in response to a clock signal transition.

10. (Previously Presented) A method for controlling execution timing of jobs, comprising:
executing a plurality of jobs, wherein said plurality of jobs includes a first job executed at irregular time intervals and a second job executed at regular time intervals;

determining a probability distribution in accordance with times at which execution of said first job occurs; and

scheduling execution of said second job in accordance with said probability distribution.

11. (Original) The method according to Claim 10, further comprising setting the starting point of the probability distribution to the time at which said first job has completed execution.

12. (Original) The method according to Claim 10, further comprising:

determining the probability distribution with respect to time zones, week-day zones and/or seasonal zones, and

scheduling execution of said second job on the basis of the probability distribution according to the current time, the current day in a week and/or the current season.

13. (Previously Presented) The method according to Claim 10, further comprising determining the probability distribution in accordance with a predetermined number of latest data items in a predetermined last period in the data at approximately the times at which execution of said first job has occurred.

14. (Original) The method according to Claim 11, further comprising:
measuring a lapse of time from the time at which the first job execution is finished;
generating array elements corresponding to a plurality of intervals defined by dividing the lapse of time from the time at which said first job execution is finished;
monitoring occurrences of execution of the first job;
updating the value of the array element related to the interval corresponding to the lapse of time after an occurrence of execution of said first job; and
computing the probability of occurrence of execution of said first job in each interval on the basis of the value of the corresponding array element.

15. (Original) The method according to Claim 14, further comprising setting the length of each of the intervals longer than the time period required for processing said second job.

16. (Previously Presented) The method according to Claim 10, further comprising:
comparing a reference duration value, T_{max} , with a non-occurrence duration, t , defined as a time period between execution of said first job; and
inhibiting said job execution means from executing the second job until a condition: $t > T_{max}$ is satisfied once after execution of said second job.

17. (Previously Presented) The method according to Claim 16, further comprising:
dividing the lapse of time from the time at which said first job is finished into a plurality of intervals, wherein the time at which said first job is finished is set as the time start point of said probability distribution;
responsive to no execution of said first job from said time start point to the end of a first interval among said plurality of intervals, utilizing said probability distribution to compute an

expectation T_l as a predicted time period prior to a time at which said second job can be executed after completed execution of said first job from the end point of one of said plurality of intervals;

detecting one of said plurality of intervals that corresponds to the minimum probability among said plurality of intervals between said time start point and T_m , wherein T_m is the end point of one of the intervals in which T_l at the end point of each interval satisfies a condition: $T_l < T_{max}$ with respect to the predetermined reference value T_{max} , and which is the furthest from the time start point; and

scheduling the execution of second job in the interval detected by said minimum probability interval detection means.

18. (Original) The method according to Claim 17, further comprising controllably setting T_{max} .

19. (Currently Amended) A ~~program-product~~ computer-readable medium having stored thereon computer-executable instructions for controlling execution timing of jobs, said computer-executable instructions adapted for performing a method comprising:

~~program instructions for~~ executing a plurality of jobs, wherein said plurality of jobs includes a first job executed at irregular time intervals and a second job executed at regular time intervals;

~~program instructions for~~ determining a probability distribution in accordance with times at which execution of said first job occurs; and

~~program instructions for~~ scheduling execution of said second job in accordance with said probability distribution.

20. (Currently Amended) The ~~program-product~~ computer-readable medium according to Claim 19, said method further comprising ~~program instructions for~~ setting the starting point of the probability distribution to the time at which said first job has completed execution.

21. (Currently Amended) The ~~program-product~~ computer-readable medium according to Claim 19, said method further comprising:

~~program instructions~~ for determining the probability distribution with respect to time zones, week-day zones and/or seasonal zones, and

~~program instructions~~ for scheduling execution of said second job on the basis of the probability distribution according to the current time, the current day in a week and/or the current season.

22. (Currently Amended) The ~~program product~~ computer-readable medium according to Claim 19, said method further comprising ~~program instructions~~ for determining the probability distribution in accordance with a predetermined number of latest data items in a predetermined last period in the data at approximately the times at which execution of said first job has occurred.

23. (Currently Amended) The ~~program product~~ computer-readable medium according to Claim 20, said method further comprising:

~~program instructions~~ for measuring a lapse of time from the time at which the first job execution is finished;

~~program instructions~~ for generating array elements corresponding to a plurality of intervals defined by dividing the lapse of time from the time at which said first job execution is finished;

~~program instructions~~ for monitoring occurrences of execution of the first job;

~~program instructions~~ for updating the value of the array element related to the interval corresponding to the lapse of time after an occurrence of execution of said first job; and

~~program instructions~~ for computing the probability of occurrence of execution of said first job in each interval on the basis of the value of the corresponding array element.

24. (Currently Amended) The ~~program product~~ computer-readable medium according to Claim 23, said method further comprising ~~program instructions~~ for setting the length of each of the intervals longer than the time period required for processing said second job.

25. (Currently Amended) The ~~program product~~ computer-readable medium according to Claim 19, further comprising:

~~program instructions for~~ comparing a reference duration value, T_{max} , with a non-occurrence duration, t , defined as a time period between execution of said first job; and

~~program instructions for~~ inhibiting said job execution means from executing the second job until a condition: $t > T_{max}$ is satisfied once after execution of said second job.

26. (Currently Amended) The ~~program-product~~ computer-readable medium according to Claim 25, said method further comprising:

~~program instructions for~~ dividing the lapse of time from the time at which said first job is finished into a plurality of intervals, wherein the time at which said first job is finished is set as the time start point of said probability distribution;

~~program instructions,~~ responsive to no execution of said first job from said time start point to the end of a first interval among said plurality of intervals, ~~[[for]]~~ utilizing said probability distribution to compute an expectation T_1 as a predicted time period prior to a time at which said second job can be executed after completed execution of said first job from the end point of one of said plurality of intervals;

~~program instructions for~~ detecting one of said plurality of intervals that corresponds to the minimum probability among said plurality of intervals between said time start point and T_m , wherein T_m is the end point of one of the intervals in which T_1 at the end point of each interval satisfies a condition: $T_1 < T_{max}$ with respect to the predetermined reference value T_{max} , and which is the furthest from the time start point; and

~~program instructions for~~ scheduling the execution of second job in the interval detected by said minimum probability interval detection means.

27. (Currently Amended) The ~~program-product~~ computer-readable medium according to Claim 26, said method further comprising ~~program instructions for~~ controllably setting T_{max} .